

Notice of Allowability

Application No.

09/898,351

Examiner

Tuan A. Vu

Applicant(s)

SUBRAHMANYAM ET AL.

Art Unit

2193

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 1/4/07.
2. ☒ The allowed claim(s) is/are 1-2, 4-12, 14-17, 19-20 (renum 1-17).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 3/16/07.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

1. This action is responsive to the Applicant's response filed 1/04/2007.

Claims 1-2, 4-12, 14-17, 19-20 are pending in the office action.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.
3. Authorization for this examiner's amendment was given in a telephone interview with John Wagner, Reg # 35398 on 3/13/07.
4. The CLAIMS have been amended in accordance to the **attached Amendments** as hereinafter included.

EXAMINER'S STATEMENT OF REASONS FOR ALLOWANCE

5. Claims 1-2, 4-12, 14-17, 19-20 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art taken separately or jointly does not suggest or teach the following features.

A method or computer product for analyzing a computer program that includes a plurality of executable blocks of code, the method comprising (i) using a code block frequency counter for tracking each time an executable block of code is received on a code cache for execution, the code block frequency counter (CBFC) maintained in a counter cache distinct from the code cache; wherein (ii) additional code for incrementing said CBFC is dynamically added to said block of code as said program is executed; and (iii) maintaining a storage area distinct from said

Art Unit: 2193

counter cache and code cache for storing the CBFC corresponding a block of code after said block is evicted from the code cache, the CBFC thus stored being reusable in the event where, subsequent to being evicted, said block of code is again received into the code cache, so that said CBFC is copied back into said counter cache to enable tracking of said block of code as mentioned above; all of which recited in claims 1, 6, 11, 16.

Burton, USPN: 6,738,865, teaches a cache eviction environment with counter of cache entries and providing a cached structure implemented as a linked list to track any cache entries; and based on a threshold demoting entries in cache while promoting other entries, and maintaining of cache entries in a demoted stages of the linked list; but does not specifically teach or suggest: a *block code frequency counter* (CBFC) to track executable code received by a code cache for execution, and distinct from a code cache from receiving executable block of code, a *counter cache* to maintain a code block frequency counter as in (i); dynamically adding *code to increment said CBFC* to a block of code while executing the program as in (ii); and maintaining a storage distinct from said counter cache to store the CBFC after the corresponding block of code is evicted from the code cache, for said CBFC to be recopied in cache in the event that said evicted block is recopied again in the code cache, as in (iii)

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Art Unit: 2193

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan A Vu whose telephone number is (272) 272-3735. The examiner can normally be reached on 8AM-4:30PM/Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571)272-3756.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273-3735 (for non-official correspondence - please consult Examiner before using) or 571-273-8300 (for official correspondence) or redirected to customer service at 571-272-3609.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tuan A Vu
Patent Examiner,
Art Unit 2193
March 16, 2007